Holotype *A. R. K. Sastry* 40966A, Amjee-Begi, Subansiri District, NEFA, 30.11.1964, (CAL). Isotypes *A. R. K. Sastry* 40966B-F (ASSAM); *A. R. K. Sastry* 40966G (K). Paratypes *A. R. K. Sastry* 44887, Begi-Amjee, 12.5.1966 (ASSAM).

Frequent on huge tree trunks covered with moss, in dense forests at an alt. of *c*. 1650 m. All the specimens collected invariably showed the lower most pair of pinnae sterile and subequal while the upper most pair is fertile and strikingly unequal in size.

This species is named in honour of Dr. (Miss) F. M. Jarrett, Kew Herbarium, who confirmed it to be new.

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# CHROMOSOME NUMBERS OF SOME GRASSES OF DEHRA DUN

## INTRODUCTION

In order to understand fully the pattern of variation and evolution in any group of plants, it is essential to compare large number of individuals with support of evidences obtained from different fields of Botany.

The cytological characters like the number of chromosomes in somatic tissue and their behaviour at meiosis are indicators of evolutionary processes. Chromosomes as carriers of genes are in a sense units of evolutionary activity and change in chromosome number and behaviour have a direct effect on the evolutionary processes and speciation. Taking the above facts into consideration, a chromosome survey of Dehra Dun grasses has been undertaken. This paper records the chromosome number and their behaviour at meiosis of six species of grasses.

## MATERIAL AND METHOD

All the species examined, were collected in the vicinity of Dehra Dun. The chromosome counts were made from aceto-carmine squashes of dividing pollen mother cells after fixing the spikelets in acetic-alcohol (1 : 3). The slides were made permanent by using N-butyl alcohol-acetic acid series and mounting in Euparal. The chromosome numbers of six species belonging to different tribes of the family Gramineae are given in the Table.

TABLE

| Sr. No. | Name | Acc. No. | Place of collection | n | Meiotic Behaviour |
|---|---|---|---|---|---|
| 1. | *Apluda mutica* | 1/68 | Dandalakhon | 10+2'B' | 10 II+2 I |
| 2. | *Brachiaria ramosa* | 6/68 | Vishnu Road | 21 | 21 II |
| 3. | *Chrysopogon serrulatus* | 3/68 | D. L. Road | 10 | 10 II |
| 4. | *Cymbopogon distans* | 4/67 | Barlowganj | 30 | 30 II |
| 5. | *Setaria viridis* | 12/68 | DAV College | 18 | 18 II |
| 6. | *Chloris dolichostachya* | 14/68 | Travor Road | 20 | 20 II |

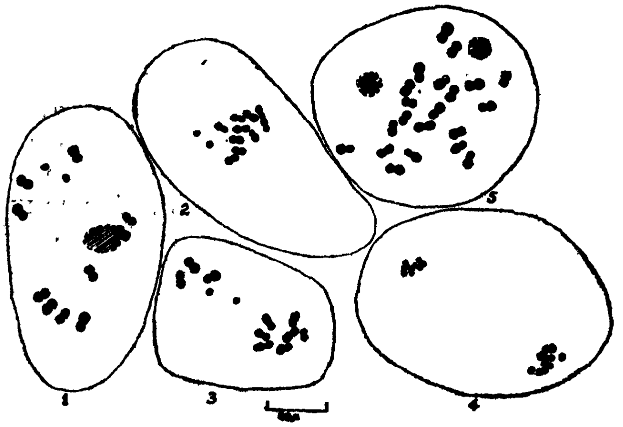
## RESULTS AND DISCUSSION

**Apluda mutica** Linn.

Two extra chromosomes were observed at diakinesis beside the normal complement of twenty chromosomes. The Chromosomes differ from the normal complement in their smaller size and behaved like 'B' chromosomes. They are usually seen as univalents at all phases. They also lagged in several cells and showed irregular distribution (Figs. 1-4). The occurrence of 'B' chromosomes is a very common feature in many genera of the tribe *Andropogoneae* (*vide* Chromosome Atlas of Flowering Plants by Darlington, C. D. and A. P. Wylie, 1955).

**Brachiaria ramosa** (Linn.) Stapf

It was found to be hexaploid with twenty one bivalents at diakinesis (Fig. 5). Thomas recorded diploid and tetraploid forms in this species with x=7 (*vide* Chromosome Atlas of Flowering Plants, 1955). 2n=36+5II have been reported in this species (*Singh*, 1965) and 2n = 36 is also reported in this species (*Mulay and Leelamma*, 1956; *de Wet*, 1958; *Singh and Godward* 1960; *Patil and Ghosh*, 1962).



*Chromosome Configurations*
Figs. 1-5: 1. *Apluda mutica*, diakinesis (n=10+2B). 2. & 3. Metaphase 1 (n=10+2B). 4. Metaphase II (B chromosomes passing to one pole). 5. *Brachiaria ramosa*, diakinesis (n=21).

**Chrysopogon serrulatus** Trin.

Ten bivalents were observed at diakinesis with regular chromosome pairing as bivalents. Diploid and polyploid species have been recorded in this genus with x=10 (*Mehra et al.*, 1962 and *Avdulov*, 1931).

**Cymbopogon distans** (Nees) Wats.

Regular meiotic divisions were observed in this species with thirty bivalents at diakinesis. From chromosome pairing it is evident that it is an allohexaploid. Diploid and teraploid forms have been recorded in this species (*Gupta*, 1969).

**Setaria viridis** Linn.

It was found to be tetraploid with eighteen bivalents at diakinesis. Diploid form with 2n=18 has been reported in this species (*Tateoka*, 1954; *Fairbrother* 1959; *Pohl*, 1962; *Platzer*, 1962; *Willweber-Kishimoto*, 1962; *Rominger*, 1962 and *Gupta*, 1963).

**Chloris dolichostachya** Lag.

It is of the tribe *Chlorideae* was observed with twenty bivalents at diakinesis. Species with x=10 has been reported in this genus (*vide* Chromosome Atlas of Flowering Plants, 1955).

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